

New Species and Forms of Lepidoptera from Afghanistan and Iraq¹

BY

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(With a plate and three text-figures)

The exploration of the lepidoptera of the Middle East continues. Afghanistan is comparatively unknown, and since the Second World War has been visited by three expeditions², of which that of J. Klapperich in 1952-3 produced the material for the following descriptions from that country. I am much indebted to Father Froitzheim of Essen for permission to study part of this material, which he has so meticulously preserved and prepared. An account of the expedition and some descriptions of new species in other groups have already appeared², and there is reason to hope that the next few years will see further additions to our knowledge of the Afghan fauna.

As regards Iraq, besides my own collections of 1935-8, 1942-4, and 1952-7, the north of this country has also been visited by the well-known Rhopalocera specialist, Dr. L. Higgins, in May-June 1957. Though concentrating on butterflies he did not ignore the moths and among his captures of the latter are several new records for Iraq listed below, and one new species described below.

During summer 1957 in England I was able to investigate certain problematical Iraqi species about which only provisional opinions could be inserted in my recent book (August 1957). The present

¹ This is the XIVth article in this taxonomic series on Middle East Lepidoptera. The previous one (XIIIth) appeared in *The Entomologist* **89**, No. 1121; it dealt with material from Jordan. Too large to be considered as in the series is 'The Lepidoptera of Iraq' (2nd Edition), Nicholas Kaye, August 1957, London, to which reference is made in the present article as 'Wiltshire (August 1957)'.

² The following papers deal in part with these three expeditions, one of which was Danish and two German:

Amsel, H. G. (1957): Die Deutsche Afghanistan-Expedition 1956 der Landessammlung für Naturkunde in Karlsruhe. (*Beitr. z. naturk. Forsch. i. Sudwestdeutsch.* **16**, H. 1, pp. 1-28.)

Boursin, C. (1957): Description de huit nouvelles *Caradrina* O.d' Afghanistan de l' expedition Klapperich et de deux *Oedibrya* Hps. (*Bull. Mens. Soc. Linn. de Lyon* **26**, No. 6, 158-163.)

Clench, Harry K. & Shoumatoff, N. (1956): The 3rd Danish Expedition to Central Asia. Zoological Results. 21. Lepidoptera Rhopalocera (Insecta) from Afghanistan. (*Vidensk. Medd. fra Dansk. Naturh. Foren* **118**.)

Klapperich, J. (1954): Auf Forschungsreisen in Afghanistan. (*Ent. Blatt.* pp. 107-118.)

article includes a more final verdict on these, and shows that in the case of the *Archana* from SE. Iraq I erred on the side of caution in not immediately describing it as a new species in the book.

I am particularly grateful for the assistance given me by Mr. W. H. T. Tams during these studies, and also must acknowledge my debt to Messrs. C. Boursin and C. L. Collenette.

Family LASIOCAMPIDAE

***Dendrolimus klapperichi* sp. n. (Plate, Figs. 9, 10)**

This dull brown, faintly marked, fair-sized moth recalls in pattern some *Metanastria* but in genitalia comes nearer to *Dendrolimus*. The course of the intra-neural series of black marks on the forewing, parallel to the outer margin, easily distinguishes it from the known species of those two genera, for in them the corresponding marks form a more angular, broken, submarginal line.

♂ antenna, orange-brown, bipectinated.

♀ antenna, pale brown with shorter pectinations.

Head, palps, thorax, and abdomen, dark greyish brown.

Forewing, dark greyish brown, paler marginad, darkest basad and costad. Markings, very faint and consisting only of three triple, faint, postmedian lines parallel to the outer margin, of which not all are always discernible, and a clearer submarginal series of intra-neural black marks, arranged roughly parallel to the outer margin. Fringes, concolorous.

Hindwing, dark greyish brown; fringes, concolorous.

Underside, both wings, monotonous greyish brown.

Span: 45-50 mm.

Holotype, ♂, Afghanistan, Nuristan, Bashgul Valley, 26-4-53, 1,100 m., leg. Klapperich, in coll. Klapperich.

Allotype, ♀, same locality and captor, 3-5-53, in coll. Klapperich.

Paratypes, 3 ♂, same locality and captor, 4-5-53, in coll. Klapperich, Wiltshire, and British Museum.

Family LYMANTRIIDAE

***Euproctis froitzheimi* sp. n. (Plate, Fig. 6)**

Palps, black. Feet, whitish grey.

Male antenna, grey, copiously bipectinated.

Head and thorax, yellow. Abdomen, with pale yellow hairs.

Forewing, plain yellow; fringes, concolorous.

Hindwing, whitish, fringes pale yellow.

Underside, forewing with costa black near base, ground colour paler yellow than upper side; hindwing pale yellow.

Span: 32 mm.

Holotype, ♂, E. Afghanistan, Paghman Mts., 28-8-53, 3,000 m., leg. J. Klapperich, in coll. Klapperich.

I designate as paratypes a series of similar examples from north India in the British Museum, at present unnamed.

Family NOTODONTIDAE

Damata dicyma sp. n. (Plate, Fig. 5)

This fair-sized, beautiful, and very distinctive greyish moth is smaller than its relatives.

Antenna black, bipectinated.

Head, palps, and thorax, dark fuscous, except for the pale grey, dark-edged tegulae. Abdomen, dirty grey.

Forewing olive-grey, finely powdered with black and white, and crossed by three wavy black markings. The first of these is the median band, filled in with black at the costa, narrower on crossing the cell, and olive-grey-centred towards the hind-margin. Orbicular stigma, represented by two faint white spots, reniform, by a not very large but clear white oval spot, about 1 mm. long and at right angles to the hind-margin. The post-median fascia is represented by a double wavy black line, the proximal strand being smoky black, the distal strand marked with white on some of the nervures and followed on the costa by a black shade. Submarginal line, wavy, obsolete, pale grey. Fringes, dark grey, chequered with whitish.

Hindwing, brownish-grey, with traces of a pale post-median line, clearest at the anal angle where it is edged proximally with a wavy fuscous border and distally with a broader fuscous border. Fringes, as on forewing.

Underside, forewing brownish grey, with upper-side markings represented on costa only, and only the post-median markings being traceable there; three black shades and a paler spot between the second and third of these comprise these costal marks. Fringes, as on upper-side. Hindwing, whitish grey with curved brown ante-median and post-median fasciae, between them a distinct brown cell-spot. The pale outer edge of the post-median fascia is followed by brownish apical and anal shades. Fringes and nervures, marked as upper-side.

Span: 60 mm.

Holotype, ♀, Afghanistan, Nuristan, Bashgul Valley, 1,100 m., 9-4-53, leg. Klapperich, in coll. Klapperich.

***Harpyia pulcherrima* Brandt *nuristana* subsp. n. (Plate, Fig. 7)**

This race, spanning 31 mm., is larger and has the dark markings deeper and more extensive than the typical Zagros form from Iraq and SW. Persia.

Holotype and paratype, Afghanistan, Nuristan, Bashgul Valley, 1,100 m., 9-4-53 and 14-4-53, leg. Klapperich, in coll. Klapperich and mea.

***Harpyia lanigera* Butl. *terminata* forma n. (Plate, Fig. 8)**

There is not enough material to decide whether this form represents an aberration or a subspecies. The fringe chequer-spots are united in it to form a continuous grey post-terminal line along part of the forewing termen. Otherwise it is very similar to the British Museum's series of *lanigera* from Kashmir and Japan, and to the type of that species from Japan.

Holotype, 1 ex. Afghanistan, Faizabad, Kokscha Valley. 1,450 m., 7-8-53, leg. Klapperich, in coll. Klapperich.

Family PHALAENIDAE (AGROTIDAE, NOCTUIDAE)

New forms and species in this family taken by Herr J. Klapperich in Afghanistan are described either in articles by Monsieur Boursin if *Trifinae* (the first of these articles is mentioned in footnote 2), or if *Quadrifinae* will appear in later articles by myself, together with new *Geometridae*. The following *Trifinae* are from Iraq.

***Lithophasia cyaxares* sp. n. (Plate, Fig. 3)**

A preliminary brief description of this appeared in Wiltshire (August 1957), No. 297a.

Antenna, filiform in both sexes, with white and sepia scales near base. Palps, wood brown and darker brown, mixed. Collar and head, similar, tufty. Thorax, very tufty, with white, pale brown, and sepia scales mixed. Feet, coloured like thorax.

Forewing, varying between pale wood brown and deep sepia, marked with snow-white, and recalling in coloration *Cucullia verbasci* L., but smaller and with general aspect suggesting a *Cleophana*. Costa and cell, pale wood brown dusted with grey and whitish; these form a pale area edged by the median nervure, outlined darker brown; stigmata, absent. Seven of the nervures reaching the outer margin are indicated in brown outline from the cell to the margin and are more or less distinctly white-edged on both sides marginal; the fringes are brown, chequered finely with pure white at the termination of the nervures. Dark sepia streaks separate the

nervures in the submarginal area. Between nervures 1 and 2 and parallel to the former runs a characteristic, arrow-like streak from base to tornus, starting as a deep sepia basal streak and prolonged into a club-shaped, snow-white centred loop, terminating below and short of the end of the cell, and followed by a pure white arrow-head whose point links up with the white intra-neural marginal lunule between nervures 1 and 2.

Forewing under-side, less distinctly marked, but the nervures near the termen are as in the upperside; so is the fringe.

Hindwing, pale dirty brown, darker in the ♀, with nervures infuscated. Termen, a fine brown line, pale-edged. Fringes, whitish. Underside, as upperside.

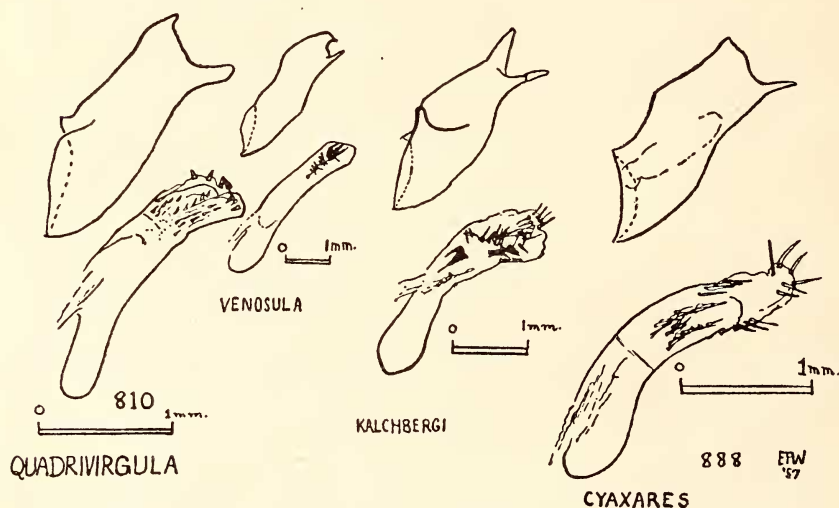


Fig. 1. Right valve and aedeagus of four *Lithophasia* and *Bryomima* species.

The male genitalia, shewn in text fig. 1 (Prep. 888), shew the affinity of this distinctively marked species to two other *Lithophasia* species, namely *quadrivirgula* Mab. and its form *jordana* Stgr. and *Lithophasia* (= *Hypomecia*) *venosula* Stgr.; the hitherto unpublished genitalia of *Bryomima kalchbergi* (first described, wrongly, as an *Antitype*) are also shewn in the same figure for comparison, having been traced from the photo of a preparation of the type of that species made by Monsieur Charles Boursin, to whom I am much indebted; evidently the genus *Bryomima* is not distant from *Lithophasia*.

Holotype and allotype, ♂ and ♀ respectively, Iraq, Kurdistan, province Erbil, Haj Omran, 1,525-1,830 m., 2 to 13-6-56, leg. E. P. Wiltshire, in coll. m.

Agrochola egorovi B.-H. laciniatae subsp. n. (Plate, Fig. 2)

Though distinct in aspect from typical *egorovi* this moth is here introduced as a subspecies of it on account of the similarity of the male genitalia. I am obliged to M. Charles Boursin for a photo of the genitalia of the type of *egorovi* from Daghistan. It may possibly be distinct. The early stages are described, and the foodplant provides the new form's name.

From typical *egorovi* as described and illustrated in Seitz III Suppt. the new form differs in its less-marked forewing. In particular, the conspicuous brown angulated central shade of *egorovi* is absent, and the black markings also not in evidence. The general colouring is dull orange-yellow with faint orange-brown lines. Only the wavy post-median and submarginal lines and termen are completely defined. The lower lobe of the reniform stigma is slightly paler; the outlines of the stigmata are very faint. Underside, paler yellow, unmarked. Hindwing, whitish. Span, 30 mm.

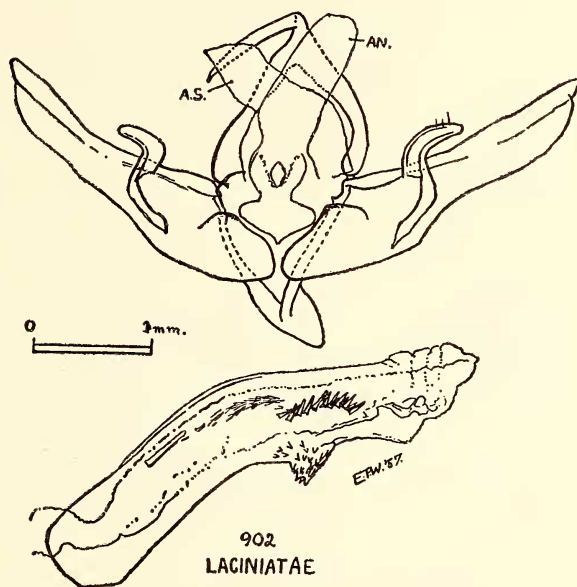


Fig. 2. Male genitalia, open ventral view, with aedeagus separated, of *Agrochola egorovi laciniatae* ssp. n. (AS = aedeagus sheath; AN = anus)

The male genitalia (shewn in text fig. 2) differ from those of *egorovi* only in the greater extension of the costal tip of the valves and the more evenly tapering form of the uncus, and perhaps also the blunter-formed harpe.

Holotype: 1 ♂, Iraq, Kurdistan, province Erbil, Haj Omran (nr. Rayat), c. 1,830 m., bred from larva found in flowers of *Eremostachys laciniata*, a giant labiate with wool-clad, white inflorescence. Hatched 18-10-56; in coll. m. This species was referred to under no. 317a without definite determination in Wiltshire (August 1957).

The larva when found in June was about 1½" long and of a whitish green colour with a pale yellow head. The sublateral stripe was whitish, the wrinkles at the somital joints were yellowish, and there were no other markings. The feet were pale, the spiracles were inconspicuous. A week later the colour became dull red-brown, darker dorsally, putty-coloured sublaterally. The head was now buff or putty-coloured. It ate no more on assuming this colour but remained torpid; after a few days it spun a cocoon on June 14. Since the cocoon was against glass, it was possible to observe the larva's development. It became smaller, more whitish and discoloured during the summer, and indeed had a diseased appearance before finally turning into a healthy pupa on September 18. The moth emerged a month later.

This phenology is typical of all Middle East and Near East *Agrochola* species which I have bred myself or of which the early stages have been published [cf. Pinker, R., 1956: Beschreibung der Raupen einiger pontischer und mediterraner Heterocerren. *Zeits. der Wiener Ent. Ges.* 41 J. (67 Bd.) No. 10. pp. 265-270].

Archana pringlei sp. n. (Plate, Fig. 1)

In Wiltshire (August 1957) this moth appeared as No. 382a and was attributed, with a query, to *insoluta* Warren-Seitz. I have now seen Warren's three types (all ♀ ♀) from Central Asia, and they are evidently a distinct species without the need for dissecting the same sex of both forms. *A. insoluta* has shorter forewings with a more arched costa and usually better defined fasciae. The Iraqi form is larger, richer red-chestnut in colour, plainer, lacking the pale costal suffusion and the black terminal intraneural dots of *insoluta*. I therefore introduce it here as a new species named after its captor, Dr. G. Pringle, the malariologist and dipterist, who has worked many years in Iraq and taken some interest in its lepidoptera.

Tongue, developed. Palp, pale grey-brown in front and above, but dark brown on sides. Head, brown mixed with pale grey scales. Thorax and abdomen, chestnut brown. Forewing, warm chestnut brown, without any fasciae, the post-median being represented by a series of very short black streaks on the nervures, some of which terminate in a small white spot. The costal and medial nervures and v. 1 are powdered with dark grey and white scales as far as these



1. *Archanara pringlei* sp. n., holotype ♂ ; 2. *Agrochola egorovi* B.-H. subsp. *laciniatae* ssp. n., holotype ♂ ; 3. *Lithophasia cyaxares* sp. n., holotype ♂ ; 4. *Syntomis higginsii* sp. n., holotype ♂ ; 5. *Damala dicyma* sp. n., holotype ♂ ; 6. *Euproctis froitzheimi* sp. n., holotype ♂ ; 7. *Harpyia pulcherrima* Brandt, subsp. *nuristana* ssp. n., holotype ♂ ; 8. *Harpyia lanigera* Butler, forma *terminata* f. n., holotype ♀ ; 9. *Dendrolimus klapperichi* sp. n., paratype ♂, genitalia ; 10. *Dendrolimus klapperichi* sp. n., paratype ♂. (Figures 5, 6, 7, and 10 natural size, others enlarged).

post-median streaks. At the lower corner of the cell there is a conspicuous single white point. Nervures, slightly and finely powdered with dark grey and white scales crossing the marginal area. Termen and fringes, concolorous.

Hindwing, whitish, the nervures lightly infuscated and a wide marginal brownish shade from the apex but not reaching the anal angle; in this shade are faint traces of a wavy pale submarginal line. Nervures 2 and 3 are each dotted with brown just after leaving the cell.

Underside, both wings, pale dirty whitish with metallic, bronzy sheen, infuscated on the nervures, with a faint powdering of grey scales near the outer margin and elsewhere.

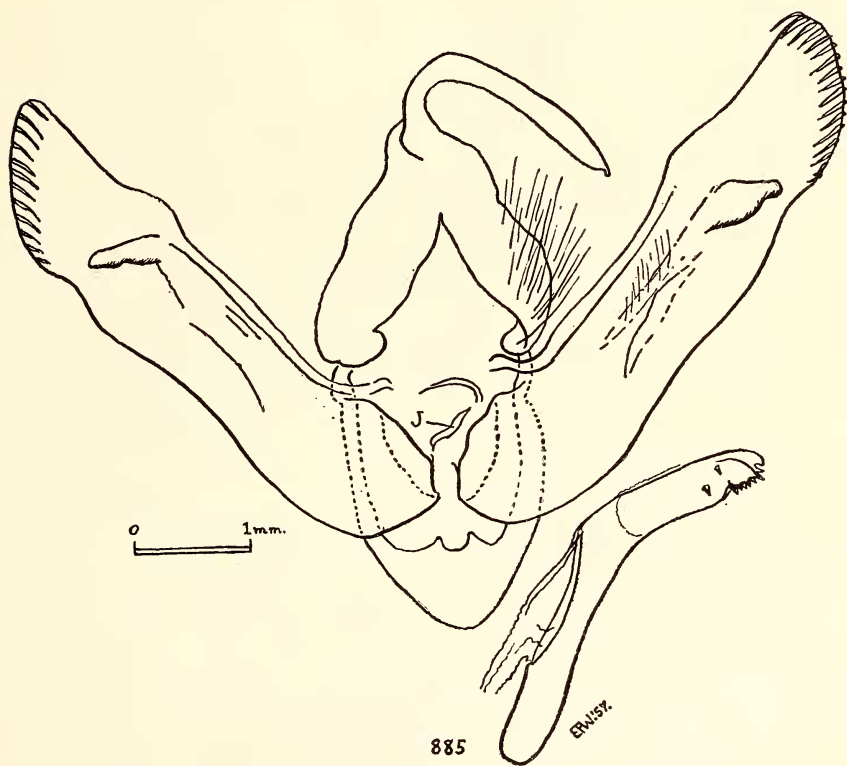


Fig. 3. Male genitalia, open ventral view, with aedeagus separated, of *Archanara pringlei* sp. n. (J = juxta).

The male genitalia (see text fig. 3) (Prep. 885) show affinity both to *Nonagria typhae* Thunb. and to *Archanara geminipuncta* Haw., and the new species may therefore be placed after the former and before the latter.

Span: 42 mm.

Holotype, 1 ♂, Iraq, Amarah marshes, near sea-level, 15-5-56, leg. G. Pringle, in coll. m.

Family SYNTOMIDAE

Syntomis higginsi sp. n. (Plate, Fig. 4)

Antenna, black.

Head, black, with yellow or white collar. Thorax, yellow or white. Abdomen, black with yellow or white rings, that on somite 8 being entire and conspicuous, those on somites 4-7 being dorsal but not ventral, and variable in extent.

Forewing, black with yellow or white spots, placed as in *sintensis* Wlgrn. or *aurivala* Schaw. but large and more angular in form. Hindwing, yellow or white with a black marginal border which widens towards the apex.

Span: 21 mm.

The following key will help to distinguish these three species:

A 1. Thorax and head, black.

A 2. Thorax yellow or white; head with yellow or white collar.

A 1. Forewing and hindwing black with small yellow spots; hindwing yellow spot, very small, sometimes absent ... *sintensis*

A 2. (i) Forewing and hindwing as in A 1. Antenna with yellow tip. ... *aurivala*

(ii) Forewing with larger, angular yellow or white spots; hindwing, yellow or white, with black border. Antenna, black ... *higginsii*

Holotype and paratype: Iraq, Kurdistan, Salah-ud-din, 1,037 m., 3 to 10-6-57, leg. L. Higgins (in British Museum).

Paratype: same data, in coll. m.

The three species named above are similar in size and obviously close relatives; and all occur within about 300 miles of each other. They are however never found, as far as I know, together. *S. aurivala* and *higginsii* seem to be very local forms, while *sintensis* extends from east Turkey (whence there is a series in the British Museum from Mardin) to west China. Until biological observations give contrary indication, they should be considered distinct species.

Both Herr J. Klapperich and Dr. L. Higgins have added a number of species hitherto not recorded from Afghanistan and Iraq respectively. A list of such from Afghanistan will appear separately later, but the additions to Iraq's fauna list, known too late for inclusion in Wiltshire (August 1957), are as follows:

Family PHALAENIDAE (AGROTIDAE, NOCTUIDAE)

Triphaena subsequa Schiff.

Hadena syriaca Osth.

Hadena pumila Staudinger

Hadena pfeifferi Draudt

Calophasia acuta Freyer

Omphalophana durnalayana Osth.

Leptosia sefidi Brandt

Hylophila bicolorana Fuesl.

Phytometra daubei Boisd.

Family SYNTOMIDAE (AMATAIDAE)

Syntomis minuta B.-H.

Syntomis aequipuncta maraschi Dan.

Family GEOMETRIDAE

Pseudopanthera syriacaria Guen.

Chiasma clathrata L.

Family PYRALIDAE

Trepteryx pertusalis Hubn.

Noctuelia superba Freyer

All the above were taken in the scrub-oak zone of the mountains of northern Iraq, except *P. daubei* which was taken to light in the central plain, on oasis ground near Bagdad, by Dr. Dhia Ahmad.